

lit search
6,018,954
Reissue 10/059,826

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1 of 1 DOCUMENT

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

6018954
February 1, 2000

Heat pump system and method for air-conditioning

REISSUE: January 30, 2002 - Reissue Application filed Ex. Gp.: 3744; Re. S.N.
10/059,826 April 16, 2002

APPL-NO: 00973090

FILED-DATE: March 17, 1998

GRANTED-DATE: February 1, 2000

Selected file: PLUSPAT

**** SS 1: Results 1**

1 / 1 PLUSPAT - @QUESTEL-ORBIT - image
PN - US6018954 A 20000201 [US6018954]
TI - (A) Heat pump system and method for air-conditioning
IN - (A) ASSAF GAD (IL)
AP - US97309098 19980317 [1998US-0973090]
PR - US97309098 19980317 [1998US-0973090]
IL11344695 19950420 [1995IL-0113446]
WOUS9604935 19960409 [1996WO-US04935]
IC - (A) F25D-017/06
EC - F24F-005/00C3
F25B-030/02
ICO - R24F-201/10B
PCL - ORIGINAL (O) : 062094000; CROSS-REFERENCE (X) : 062271000
062305000 062310000 062332000
DT - Corresponding document
CT - US2672024; US2798570; US2952993; US4700550; US4941324
STG - (A) United States patent
AB - PCT No. PCT/US96/04935 Sec. 371 Date Mar. 17, 1998 Sec. 102(e)
Date Mar. 17, 1998 PCT Filed Apr. 9, 1996 PCT Pub. No. WO96/33378
PCT Pub. Date Oct. 24, 1996 There is provided a heat pump system
including two (4, 6), at least similar units in fluid
communication with each other, each unit having a housing (8, 8'),
a first air/brine heat exchanger (12, 12'), a second
brine/refrigerant heat exchanger (24, 24'), a brine inlet (10,
10') for applying brine onto at least one of the heat exchangers,
a brine reservoir (14, 14') and a pump (28) for circulating the
brine from the reservoir to the inlet. The first and second heat
exchangers are in closed loop fluid communication with each other
and have a compressor (44) for circulating a refrigerant
therethrough in selected directions.

1 / 1 LGST - @LEGSTAT
PN - US 6018954 [US6018954]
AP - US 973090/98 19980317 [1998US-0973090]
DT - US-P
ACT - 19980317 US/AE-A
APPLICATION DATA (PATENT)
US 973090/98 19980317 [1998US-0973090]

20000201 US/A
PATENT

20020416 US/RF
REISSUE APPLICATION FILED
20020130
UP - 2002-17

1 / 1 CRXX - @CLAIMS/RRX
PN - 6,018,954 A 20000201 [US6018954]
PA - Assaf, Gad IL
ACT - 20020130 REISSUE REQUESTED
ISSUE DATE OF O.G.: 20020416
REISSUE REQUEST NUMBER: 10/059826
EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 3744

Reissue Patent Number:

1 / 1 PAST - ©Thomson Derwent
AN - 200216-001809
PN - 6018954 A [US6018954]
OG - 2002-04-16
ACT - REISSUE APPLICATION FILED

Selected file: INPADOC

**** SS 1: Results 9**

1 / 9 INPADOC - ©INPADOC
PN - AU 55399/96 A1 19961107 [AU9655399]
TI - HEAT PUMP SYSTEM AND METHOD FOR AIR-CONDITIONING
IN - ASSAF GAD
PA - ASSAF GAD
AP - AU 55399/96-A 19960409 [1996AU-0055399]
PR - IL 113446/95-A 19950420 [1995IL-0113446]
WO 9604935/96(US)-W 19960409 [1996WO-US04935]
IC - F25D-017/06

2 / 9 INPADOC - ©INPADOC
PN - CN 1182475 A 19980520 [CN1182475]
TI - HEAT PUMP SYSTEM AND METHOD FOR AIR-CONDITIONING
IN - ASSAF GAD [IL]
PA - GAS ASSAF [IL]
AP - CN 96193382/96-A 19960409 [1996CN-0193382]
PR - IL 113446/95-A 19950420 [1995IL-0113446]
IC - F25D-017/06

3 / 9 INPADOC - ©INPADOC
PN - EP 824659 A4 20001206 [EP-824659]
TI - HEAT PUMP SYSTEM AND METHOD FOR AIR-CONDITIONING
LA - ENG
IN - ASSAF GAD [IL]
PA - ASSAF GAD [IL]
AP - EP 96912664/96-A 19960409 [1996EP-0912664]
PR - IL 113446/95-A 19950420 [1995IL-0113446]
WO 9604935/96(US)-W 19960409 [1996WO-US04935]
IC - F25D-017/06; F24F-005/00; F25B-030/02
DS - AT* BE* CH* DE* DK* ES* FI* FR* GB* GR* IE* IT* LI* LU* MC* NL* PT*
SE*

1 / 1 LEGALI - ©LEGSTAT
PN - EP 824659 [EP-824659]
AP - EP 96912664/96 19960409 [1996EP-0912664]
DT - EP-P
ACTE - 19960409 EP/AE-A
EP-APPLICATION
EP 96912664/96 19960409 [1996EP-0912664]

19980225 EP/AK-A1 [+]
DESIGNATED CONTRACTING STATES IN AN APPLICATION WITH SEARCH

REPORT:
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

19980225 EP/A1 [+]
PUBLICATION OF APPLICATION WITH SEARCH REPORT

19980225 EP/17P [+]
REQUEST FOR EXAMINATION FILED
971017

19980701 EP/RAP1
APPLICANT REASSIGNMENT (CORRECTION)
ASSAF, GAD

19980708 EP/RIN1
INVENTOR (CORRECTION)
ASSAF, GAD

20001206 EP/AK-A4 [+]
DESIGNATED CONTRACTING STATES MENTIONED IN A SUPPLEMENTARY SEARCH
REPORT:
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

20001206 EP/A4 [+]
SUPPLEMENTARY SEARCH REPORT
20001019

20001206 EP/RIC1
CLASSIFICATION (CORRECTION)
7F 25D 17/06 A, 7F 24F 5/00 B, 7F 25B 30/02 B
UP - 2000-49

4 / 9 INPADOC - @INPADOC
PN - EP 824659 A1 19980225 [EP-824659]
TI - HEAT PUMP SYSTEM AND METHOD FOR AIR-CONDITIONING
LA - ENG
IN - ASSAF GAD [IL]
PA - WOLIN SUSAN BARBIE [IL]; ASSAF GAD [IL]
AP - EP 96912664/96-A 19960409 [1996EP-0912664]
PR - IL 113446/95-A 19950420 [1995IL-0113446]
WO 9604935/96(US)-W 19960409 [1996WO-US04935]
IC - F25D-017/06
DS - AT* BE* CH* DE* DK* ES* FI* FR* GB* GR* IE* IT* LI* LU* MC* NL* PT*
SE*

1 / 1 LEGALI - @LEGSTAT
PN - EP 824659 [EP-824659]
AP - EP 96912664/96 19960409 [1996EP-0912664]
DT - EP-P
ACTE - 19960409 EP/AE-A
EP-APPLICATION
EP 96912664/96 19960409 [1996EP-0912664]

19980225 EP/AK-A1 [+]
DESIGNATED CONTRACTING STATES IN AN APPLICATION WITH SEARCH
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AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

19980225 EP/A1 [+]
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971017

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ASSAF, GAD

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INVENTOR (CORRECTION)
ASSAF, GAD

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REPORT:
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

20001206 EP/A4 [+]
SUPPLEMENTARY SEARCH REPORT
20001019

20001206 EP/RIC1
CLASSIFICATION (CORRECTION)
7F 25D 17/06 A, 7F 24F 5/00 B, 7F 25B 30/02 B

UP - 2000-49

5 / 9 INPADOC - ©INPADOC

PN - IL 113446 A0 19950731 [IL-113446]
TI - HEAT PUMP SYSTEM AND A METHOD FOR AIR CONDITIONING
PA - ASSAF GAD
AP - IL 113446/95-A 19950420 [1995IL-0113446]
PR - IL 113446/95-A 19950420 [1995IL-0113446]
IC - F25B-000/00

1 / 1 LEGALI - ©LEGSTAT

PN - IL 113446 [IL-113446]
DT - IL-P
ACTE - 19981030 IL/FF [+]
PATENTS GRANTED

19990411 IL/KB [+]
PATENTS RENEWED

20010724 IL/KB [+]
PATENTS RENEWED

UP - 2001-40

6 / 9 INPADOC - ©INPADOC

PN - IL 113446 A1 19980405 [IL-113446]
TI - HEAT PUMP SYSTEM AND A METHOD FOR AIR CONDITIONING
PA - ASSAF GAD [IL]
AP - IL 113446/95-A 19950420 [1995IL-0113446]
PR - IL 113446/95-A 19950420 [1995IL-0113446]
IC - F25D-017/06; F25B-029/00

1 / 1 LEGALI - ©LEGSTAT

PN - IL 113446 [IL-113446]
DT - IL-P
ACTE - 19981030 IL/FF [+]

PATENTS GRANTED

19990411 IL/KB [+]
PATENTS RENEWED

20010724 IL/KB [+]
PATENTS RENEWED

UP - 2001-40

7 / 9 INPADOC - ©INPADOC

PN - JP 11504105 T2 19990406 [JP11504105]
AP - JP 531798/96-A 19960409 [1996JP-0531798]
PR - IL 113446/95-A 19950420 [1995IL-0113446]
WO 9604935/96(US)-W 19960409 [1996WO-US04935]
IC - F25D-017/00

8 / 9 INPADOC - ©INPADOC

PN - US 6018954 A 20000201 [US6018954]
TI - HEAT PUMP SYSTEM AND METHOD FOR AIR-CONDITIONING
IN - ASSAF GAD [IL]
PA - ASSAF GAD [IL]
AP - US 973090/98-A 19980317 [1998US-0973090]
PR - US 973090/98-A 19980317 [1998US-0973090]
IL 113446/95-A 19950420 [1995IL-0113446]
WO 9604935/96(US)-W 19960409 [1996WO-US04935]
IC - F25D-017/06

1 / 1 LEGALI - ©LEGSTAT

PN - US 6018954 [US6018954]
AP - US 973090/98 19980317 [1998US-0973090]
DT - US-P
ACTE - 19980317 US/AE-A
APPLICATION DATA (PATENT)
US 973090/98 19980317 [1998US-0973090]

20000201 US/A
PATENT

20020416 US/RF
REISSUE APPLICATION FILED
20020130

UP - 2002-17

9 / 9 INPADOC - ©INPADOC

PN - WO 9633378 A1 19961024 [WO9633378]
TI - HEAT PUMP SYSTEM AND METHOD FOR AIR-CONDITIONING
LA - ENG
IN - ASSAF GAD [IL]
PA - WOLIN SUSAN BARBIE [IL]; ASSAF GAD [IL]
AP - WO US 9604935/96(US)-A 19960409 [1996WO-US04935]
PR - IL 113446/95-A 19950420 [1995IL-0113446]
IC - F25D-017/06
DS - AM* AT* AU* BB* BG* BR* BY* CA* CH* CN* CZ* DE* DK* EE* ES* FI* GB*
GE* HU* IS* JP* KE* KG* KP* KR* KZ* LK* LR* LT* LU* LV* MD* MG*
MN* MW* MX* NO* NZ* PL* PT* RO* RU* SD* SE* SG* SI* SK* TJ* TM* TT*
UA* UG* US* UZ* VN* KE LS MW SD SZ UG AT BE CH DE DK ES FI FR GB
GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

1 / 3 LEGALI - @LEGSTAT

PN - JP 531798/96
AP - JP 531798/96 - [1996JP-0531798]
DT - JP-A
ACTE - 19971020 JP/REFW-P
CORRESPONDS TO PCT APPLICATION
<WO 9633378> [WO9633378]
UP - 1998-51

2 / 3 LEGALI - @LEGSTAT

PN - US 973090/98
AP - US 973090/98 - [1998US-0973090]
DT - US-A
ACTE - 19980317 US/REFW-P
CORRESPONDS TO PCT APPLICATION
<WO 9633378> [WO9633378]
UP - 1998-44

3 / 3 LEGALI - @LEGSTAT

PN - WO 9633378 [WO9633378]
AP - WO 9604935/96(US) 19960409 [1996WO-US04935]
DT - WO-P
ACTE - 19960409 WO/AE-A
APPLICATION DATA
WO 9604935/96(US) 19960409 [1996WO-US04935]

19961024 WO/AK-A1 [+]

DESIGNATED STATES CITED IN A PUBLISHED APPLICATION WITH SEARCH
REPORT

AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE
KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SD
SE SG SI SK TJ TM TT UA UG US UZ VN

19961024 WO/AL-A1 [+]

DESIGNATED COUNTRIES FOR REGIONAL PATENTS CITED IN A PUBLISHED
APPLICATION WITH SEARCH REPORT

KE LS MW SD SZ UG AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT
SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

19961024 WO/A1 [+]

PUBLICATION OF THE INTERNATIONAL APPLICATION WITH THE
INTERNATIONAL SEARCH REPORT

19970129 WO/121

EP: PCT APP. ART. 158 (1)

19970220 WO/DFPE

REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF
19TH MONTH FROM PRIORITY DATE

19971020 WO/ENP-A

ENTRY INTO THE NATIONAL PHASE IN:
<JP 96531798>

19980226 WO/REG; DE/8642 [-]

DE: WITHDRAWAL
<DE>

19980317 WO/ENP-A

ENTRY INTO THE NATIONAL PHASE IN:
<US 98973090 19980317>

19981020 WO/NENP
NON-ENTRY INTO THE NATIONAL PHASE IN:
CA
<CA>

UP - 1999-09

Session finished: 08 JUL 2002 Time 18:51:56